REMARKS/ARGUMENTS

Office Action Summary

Claims 1 through 12 are pending in the application. Claims 1-4 and 6-10 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by US patent 6,625,227 to Shull et al. ("Shull"). Claim 4 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 6 and 12 stand rejected under 35 U.S.C. § 112 due to insufficient antecedent basis for certain claim limitations. Claims 5 and 11 are allowed. The drawings stand objected to for failure to comply with the requirements of 37 C.F.R. § 1.84(p) (Figure 2) and 37 C.F.R. 1.83(a) (Figure 7). The specification stands objected to due to use of improper language in the Abstract and an inaccurate citation to an incorporated reference. Applicant is unaware of any other rejections or objections pending in the application.

Amendments to the Claims

Claims 4, 6 and 12 have been amended to address the rejections under 35 U.S.C. § 112.

The rejection of Claim 4 indicated that there was inadequate antecedent basis for the expressions "said coefficients" in the last line of the claim. An amendment has been added so the limitation now reads "said coefficients selected to minimize energy", which now clearly refers to the antecedent limitation introduced in Claim 1, from which Claim 4 depends.

The rejections of Claim 6 and Claim 12 indicated that the phrase "the digital filter tap coefficients" lacked sufficient antecedent basis. The claims have been amended to remove the word "the" from that phrase, which directed the reader to a non-existent antecedent limitation. Thus, the claims now properly read such that the expression "digital filter tap coefficients" introduce a limitation for the first time.

Amendments to the Drawings

Figure 2 has been amended to change the reference numeral identifying the functional block labeled "CNTRL" from "13" to "14", which is consistent with the originally filed Specification. Figure 7 has been amended to include a DSP controller functional block referenced by numeral "51", which also embodies the two Nyquist FIR filters identified by reference numerals 72 and 74. Support for this drawing amendment is found in the originally filed specification on page 14 at lines 1 - 8, which provides:

> Mapping circuit 70 produces two digital outputs for the in-phase and quadrature-phase inputs of the QAM modulator 76, which are coupled to a pair of Nyquist filters 72 and 74. The Nyquist filters are implemented as 65-tap finite impulse response (hereinafter 'FIR') filters in a DSP in the preferred embodiment. Actually, since a Nyquist filter impulse response is used to reduce inter-symbol interference at the output of the modulator 76, the filters 72 and 74 generate a square-root Nyquist response output, accomplished mathematically in the DSP.

That paragraph has been amended to recite the new reference number "51" added to Figure 7. Replacement drawing sheets 1 and 3 as well as annotated marked-up drawing sheet 1 and 3 are attached as appendixes hereto.

Amendments to the Specification

Applicant notes, with appreciation, the Examiner's careful review of the specification. The Abstract has been amended to remove the word "disclosed" from the first sentence, as required by the Examiner. The specification has been amended to correct the serial number of the co-pending patent application, which was incorporated by reference, from "09/307,078" to "09/302,078." The specification has been further amended to correspond to the amendments made to drawing Figure 7, by adding reference numeral "51".

Rejection under 35 U.S.C. §102(e) in view of the Shull Reference

Applicant respectfully traverses the rejection of Claims 1-4 and 7-10 under 35 U.S.C. §102(e). Respecting independent Claim 1 and Independent Claim 7, Shull fails to teach each and every element and limitation of these claims, and thus is an improper § 102 reference.

Shull teaches an "artificial ramping of transmit power" (Title) where "[t]he selection of the artificial ramping profile is based at least in part on the first message symbol of the message to be burst transmitted." (Abstract) Further, "[p]referably, each different possible first message symbol has its own unique corresponding artificial ramping profile, and the corresponding waveform is used to artificially ramp the power amplifier ..." (Abstract) And, "[t]he generation of transient adjacent channel power is significantly reduced by artificially ramping the power amplifier rather than allowing for natural ramping." (Abstract) Emphasis added by Applicant.

Shull goes on to summarize their invention, by providing: "[t]he present invention applies an artificial ramping waveform profile to the power amplifier in order to reduce transients" (Col. 1, line 66 thru Col. 2, line 1). And, "[a]n artificial ramping profile source is supplied with a plurality of pre-determined artificial ramping profiles" (Col. 2, lines 1-2). Also, "[t]he transmitted signal is based then on the response of the power amplifier to the artificial ramping profile and the message symbols" (Col. 2, lines 17-20). And, "[t]he generation of transient adjacent channel power may be significantly reduced by artificially ramping the power amplifier rather than allowing for natural ramping of the power amplifier" (Col. 2, lines 26-29). Emphasis added by Applicant.

Thus, it is clear the Shull is addressing the issue of bandwidth control and transient management by ramping the transmit power of the device. In fact, a review of Figure 5 of Shull shows that the artificial ramping waveform source (item 132) is switched (item 130) to the RF power circuits (items 120, 122, and 124) in place of the FIR filters 114.

Independent Claim 1 and Claim 7 are directed to reducing output energy and bandwidth through a digital filter. The signal is reduced by the filter, by calculating a ramp data field in accordance with filter coefficients selected to minimize energy in a truncated tail of the digital filter as a function of a data field processed by the filter. In stark contrast, Shull uses pre-determined, not calculated, ramping profiles that ramp transmit power, as opposed to reducing energy through the filter. Again, consider Shull Figure 5, where the ramping profile is clearly independent of the filter and its output. The Shull filter in no way affects the ramping profile, whereas the present application Claims require that it be data processed by the filter that is used to calculate ramp data. Thus Shull fails to teach each and every limitation of the present claims and is therefore not a proper §102 reference. Further, it is Applicant's firm belief that the Shull approach is fundamentally different than that claimed in independent Claims 1 and 7.

Rejected Dependent Claims

It is well settled law that since dependent Claims 2-4 and 8-10 depend from independent Claims 1 and 7, and since Claims 1 and 7 have been shown to be in condition for allowance, then the dependent claims are also in condition for allowance.

Other References

Applicant notes the prior art references cited, but not relied upon, by the Examiner.

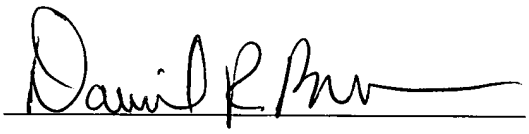
Conclusion

The foregoing is submitted as a full and complete response to the Office Action mailed April 21, 2004. The Applicant believes that the same places the present application in condition for allowance. Reconsideration by the Examiner and allowance of the claimed invention is hereby courteously solicited.

Since the total number of claims in the Application remains unchanged, it is Applicant's belief that all fees in the case have been previously paid. In the event that the Examiner determines otherwise, the that Commissioner is hereby authorized to charge such additional fees, excluding the Issue Fee, or credit any overpayment to Daniel R. Brown Deposit Account No. 501507.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

By: 

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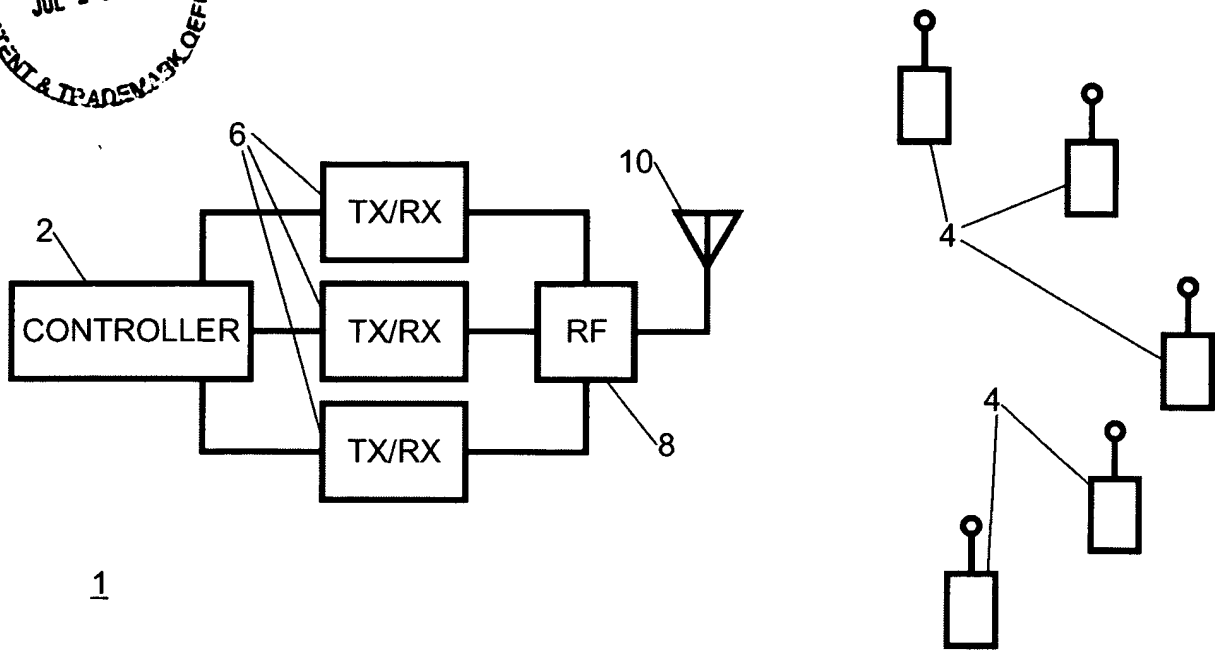

Fig. 1

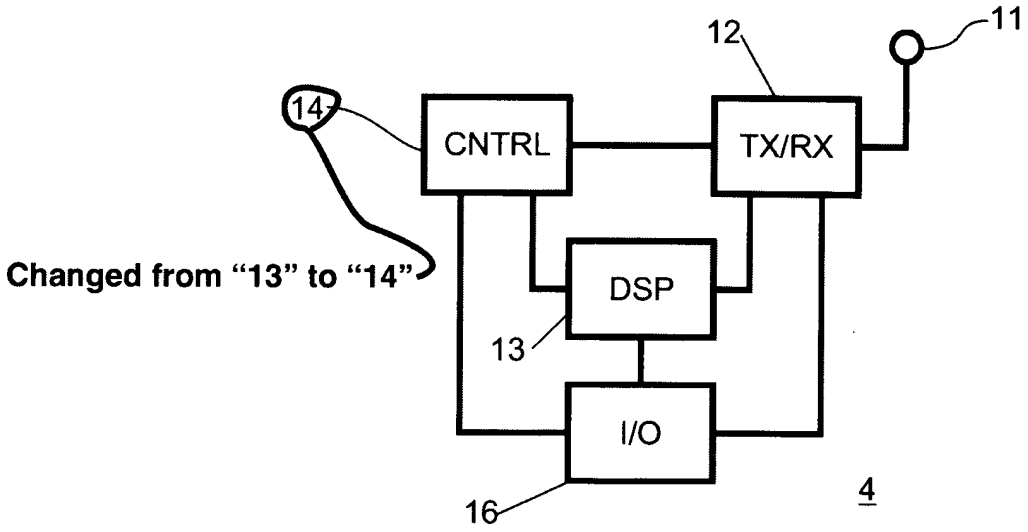

Fig. 2

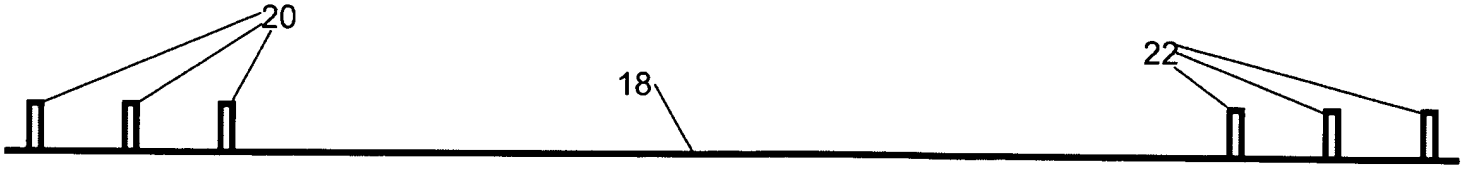

Fig. 3

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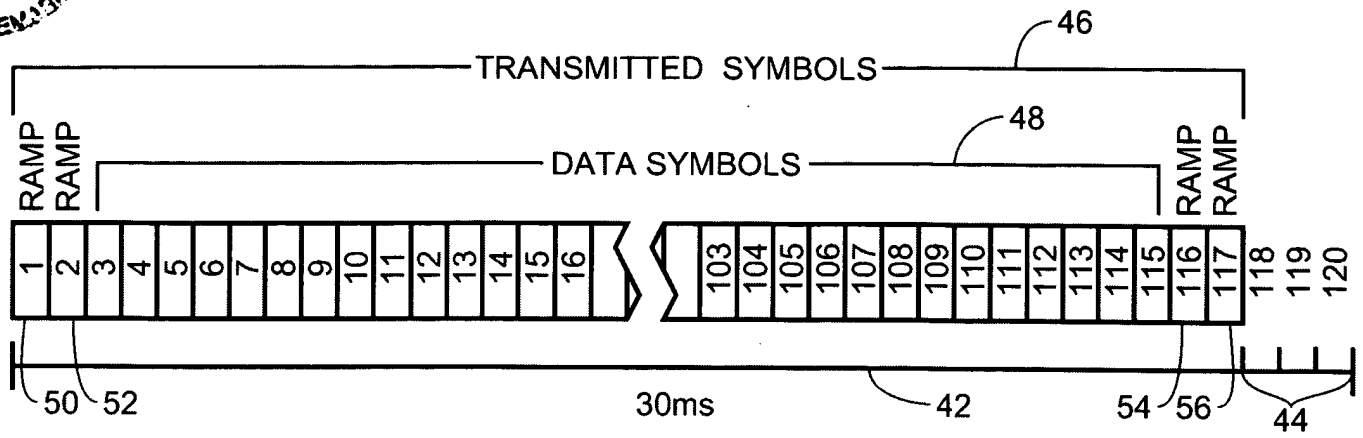

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Fig. 6

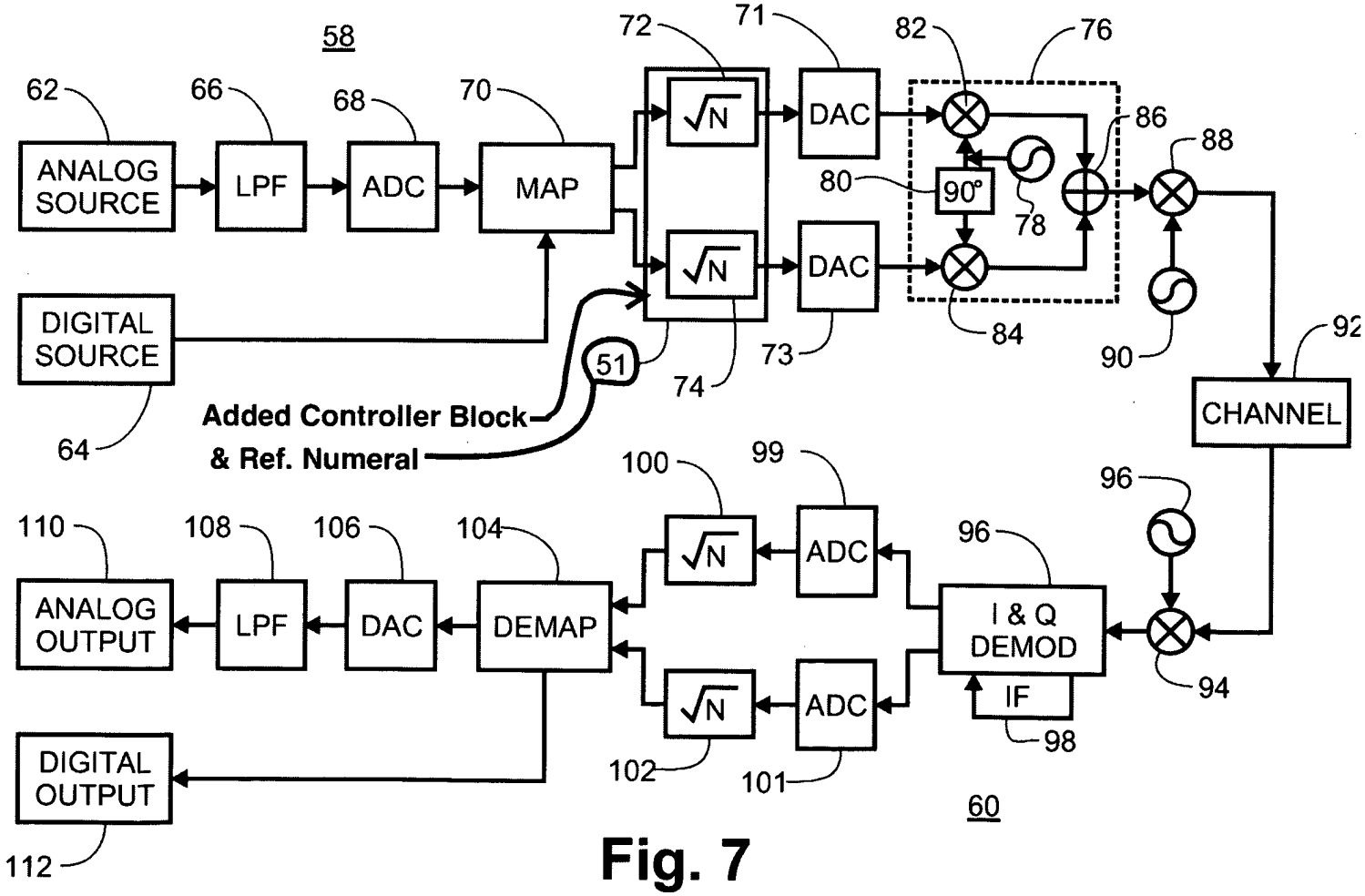

Fig. 7